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ABSTRACT

A process for arriving at institutional agreement regarding the goals of general education is suggested, as are a process of generating conceptual definitions in key general education skill areas, a process for operationalizing these conceptual definitions, and procedures for gathering longitudinal general education data that may form a basis from which curricular generalizations might be made. It is suggested that a valid approach to program evaluation is to assess student outcomes, or what students are able to do as evidenced by observable and measurable criteria at the time of graduation. It is recommended that representatives from each academic component contributing to the general education program (including student representation) be constituted for purposes of determining program objectives, performance criteria, and evaluation procedures to assess program effectiveness. Descriptions of common standardized instruments designed to measure student achievement are included. A five-stage approach to examining general education programs is described in terms of objectives, rationale, and recommendations: development of conceptual definitions, identification of observable performances and criteria, assessment of students and programs (design and implementation), evaluation or making judgments regarding student and program performance, and policy development and decision-making. Examples of generic skills areas for general education student outcomes are included. (SW)

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Evaluating General Education Programs:

An Assessment Model for the 1980's

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Introduction

The phrase "global village" coined by Marshall MacLuhan several years ago emphasizes the impact of media and technology upon man's global perspectives and reinforces the perception of an escalating interdependence of mankind.

As a result of almost-daily technological advances, our students are moving into an enigmatic world of values confrontation, de-personalization, interpersonal communications anomalies, conformity, and ambivalence.

The ability of our students to put conflicting evidence into perspective, to sort out the meaningful from the trivial, and to discriminate between the enduring and the ephemeral will be crucial to their contribution toward helping to solve rather than becoming part of society's problems.

Institutions, through their general education programs, can promote skills to be used as life-long resources by students as they are forced to come to grips with the problems manifested by an ever-changing, complex society. These skills (or student outcomes, as they are sometimes called) may, by consensus, be viewed as institutional goals. As such they are often obscured because of the diverse and autonomous nature of institutions of higher learning; each having a unique mission, historical origin, evolution, locale, and clientele. However, as clearly stated in the conclusion of Missions of the College Curriculum: A Contemporary Review With Suggestions by the Carnegie Foundation for the Advancement of Teaching; "If colleges cannot define what they intend to accomplish in general education, cannot specifically describe how it will benefit the students who engage in it, and cannot deliver an effective general education component, they should seriously consider eliminating it entirely."[1]

Several issues are unavoidable and must be confronted by each institution's faculty; 1) What is the effect of the general education program upon students' lives?; 2) How might this effectiveness be evaluated?; 3) How might principled, non-threatening and academically defensible changes be promoted?

While most in higher education agree that general education programs are institution-wide programs which are held in common by the full faculty, many faculty members have come to feel disenfranchised from the general education decision-making process. This feeling of being "on the outside" may precipitate factionalization of an institution's faculty, "turf protecting," and obstructionism. While, at the same time, those who feel "on the inside" of the general education decision-making scene tend to become intransigent whenever they perceive a threat to their general education domains.

In an attempt to confront the issue of assessing student outcomes in general education, several projects have been generated by such organizations as the Society for Values in Higher Education (The Project on General Education Models--GEM), The American College Testing Program (College Outcome Measures Project--ACT/COMP), The American Association of State Colleges and Universities (Academic Program Evaluation Project--APEP), and others.

The purpose of this paper is to suggest a process for arriving at institutional agreement regarding the goals of general education; to examine the process of generating conceptual definitions in key general education skill areas; to propose a process for operationalizing these conceptual definitions; and to describe procedures for gathering longitudinal general education data which may serve as a basis from which curricular generalizations might be made.

Establishing Institutional Goals

Researchers have historically disagreed upon what constitutes evidence which explains changes in attitudes, values, personal traits, and other charac-

teristics which impact upon a student's college experience. Also, most researchers agree that the terms "change" and "impact" need precise definitions especially when one tries to ascertain a cause-and-effect relationship between a college's curriculum and student outcomes.[2]

That students do change as a result of their college experiences is an accepted fact. Establishing a chain of causation between the college curriculum and concomitant changes by using an appropriate assessment instrument is clearly another matter.

More than 20 years ago, Paul Dressel indicated that there were at least two distinct approaches to evaluating general education programs.[3]

The first is to try to assess the impact of the program by assessing the skills of students upon entrance to college and subsequently upon graduation. Improvement in the respective skill areas under examination is thus ascribed to the particular program which was designed to satisfy those specific objectives. The obvious difficulty with this method is that the observed changes cannot logically be credited to the specific program because of the myriad extraneous and intervening variables which may have influenced the student during his college experience.

A second and more valid approach to program evaluation is to assess student outcomes, that is, what students are able to do as evidenced by observable and measurable criteria at the time of graduation. These student outcomes (also called performance criteria) can then be evaluated relative to the degree to which program goals are being achieved. If, for example, students are not demonstrating the desired outcomes at time of graduation, the curriculum can then be modified to remedy the deficiencies in succeeding classes. This approach obviously necessitates the continuous collection of data for longitudinal analysis.

Student outcomes, then, are the ends or objectives of the curricular program while the instructional procedures within the components of the program are the means by which these objectives are achieved. These objectives can be constructed on a course-by-course, department-by-department, or generic skills basis, for example. However, it must be emphasized that in the case of institution-wide programs such as general education, the larger the basis of consensus among the general faculty regarding specific student outcomes, the greater the likelihood of achieving the program's objectives. To this end, it is recommended that an institution-wide committee composed of representatives from each academic component contributing to the general education program (including student representation) be constituted for purposes of determining program objectives, performance criteria, and evaluation procedures to assess program effectiveness.

Generating Generic Skills

Once the appropriate committee has been constituted it can begin to function as a conduit representing its various constituencies' views and providing feedback regarding the particular outcomes which should be manifest in the graduating student. (It appears that the more levels of hierarchy extant in an institution, compounded by a cumbersome number of component divisions to be represented on the committee, the more difficult it will be to obtain consensus on conceptual and operational definitions of generic student outcomes.)

This function can be accomplished in at least two ways. First, each committee member can gather from his/her respective academic component specific student outcomes to be discussed at the committee level and, through an inductive-deductive process, categorized into mutually agreed upon generic skill areas to be defined conceptually. Then, from this base of consensus the

committee can move toward identifying program-wide student outcomes which are both observable and measurable.

A second (and somewhat more direct) approach might be to ask each committee member to ascertain from the respective academic component those broad skills which are deemed essential and should be apparent in the graduating student. The committee would then proceed toward consensus regarding which of the skill areas should be addressed and subsequently, in a deductive manner, to those specific student outcomes mentioned above.

While the processes differ slightly, the products will ostensibly be the same. The choice, however, should remain with the committee to minimize the possible perception of administrative intervention. (Please see Appendix A for examples of Generic Skills.)

Generating Conceptual Definitions

Upon agreement regarding which generic skill areas will be addressed, the committee can proceed toward the actual generation of conceptual definitions.

Again, there are several approaches which might be taken depending upon such factors as the size of the committee, the time frame, etc. For example, if five generic skill areas are being considered, the committee might choose to organize itself into five subcommittees, each working on a specific and, preferably, self-selected skill area to be taken back to the entire committee and discussed. Another approach might be for each committee member to work on one particular skill area definition for a specified period of time (one definition per week for five weeks, for example). A third approach might be for each committee member to define the five skill areas in relation to his/her respective academic component's general education contribution. (Three weeks might be allowed for this task.) The entire committee could then work for two weeks toward consensus upon each skill area definition. (It should be noted that there are obvious liabilities associated with each committee member

working in isolation for extended periods of time.)

Theoretically, each of these approaches, after a five week period, should result in agreement regarding the conceptual definitions of the five generic skill areas.

The next step for the committee is the translation of these conceptual definitions into an applicable format.

Operationalizing Conceptual Definitions

Operationalizing conceptual definitions means describing, within the parameters of agreed upon definitions, those essential academic abilities which must be demonstrable and measurable by the time of the student's graduation. These student outcomes or performance criteria should be stated in behavioral terms and should specify mediating conditions under which each behavior is to be carried out.[4]

As an intermediate step between the conceptual definitions and the behaviorally stated objectives, the committee may wish to illustrate desired student outcomes in very general terms. For example, if the committee has chosen to consider Quantification Skills as one of the generic skill areas, it might wish to state general student outcomes in terms of what students must be <u>able to do</u> under certain conditions. This could take form as:

> Students will be asked to complete a quantification skills assessment instrument which has been prepared by an appropriate faculty examining committee. They should be able to demonstrate an acceptable level of performance as evidenced by the solution of problems within a specified time frame calling upon the abilities enumerated below:
> 1) The ability to measure mass, magnitude, duration of time, number by category on appropriate scale, etc., using the appropriate instruments and units of measure. . .
> 2) The ability to apply computer capabilities to problem-solving. . . etc.

From this intermediate step the committee can proceed to enlist the aid of an "appropriate faculty examining committee" to re-write the aforementioned

abilities in behavioral terms. This faculty examining committee might be discipline-particular, cross-disciplinary, or multi-disciplinary in nature depending upon the preference of the institution-wide committee in light of the specific skill areas being considered.

Upon completion of the behaviorally stated student outcomes, the process of designing and/or adopting an assessment instrument may begin.

Measuring Student Outcomes

Over the years, many instruments have been designed to measure student achievement. For the most part, these test measure subject-based knowledge and understanding and do not address such issues as whether students' scores reflect achievement in very broad skill areas. More important, such standardized instruments do not necessarily address institution-specific or program-specific student outcomes.

C. Robert Pace, in Measuring Outcomes of College, noted several landmark studies which are worthy of mention here.[5]

The Pennsylvania Study, undertaken in 1928, 1930, and 1932, involved administering to 4,500 graduating seniors from 45 Pennsylvania colleges a 12-hour achievement test battery. Sophomores were also tested in 1930 and were again tested as seniors in 1932 in an attempt to produce evidence in support of the obvious notion that the more extensively one has studied in a field, the more one knows about it. As expected, test results substantiated this claim as mean scores in every one of the 45 colleges improved between sophomore and senior testing. Each college also gained on all or nearly all of the specific subjects measured by the test (except mathematics) regardless of the student's major field of study.

The Tests of General Education produced by the Graduate Record Office were a battery of examinations which took eight hours to complete. Students

were tested in general mathematics, physical sciences, biological sciences, social studies, literature, arts, effectiveness of expression and vocabulary. More than 1,000 students from 16 colleges were tested as sophomores in 1946 and again as seniors in 1948. Mean scores of seniors in all subject areas were higher than those same students taking the test as sophomores thus confirming the results of the earlier Pennsylvania study.

The Graduate Record Examination Area Tests were introduced in 1954 and were designed to test the broad categories of social sciences, natural sciences, and humanities with a three and three-fourths hours test battery. These tests represented a significant departure from the Pennsylvania study and the tests of general education. Rather than testing for content knowledge, the area tests evaluated students' reading ability, and the ability to understand and interpret knowledge. Again, test scores of 3,035 college seniors in 1954 confirmed the findings of earlier studies regarding students' scoring patterns in their fields of specialization.

The College Level Examination Program was designed to give students college credit for knowledge which may have been acquired outside the collegiate context. In order to gather normative data these tests were given to a national sample of college sophomores and students enrolled in the United States Armed Forces Institute courses. Again, conclusive data were obtained illustrating that the level of student performance was directly related to the number of college courses completed.

The Undergraduate Assessment Program: Area Tests and Field Tests are very closely related to the area tests of the Graduate Record Examination and were initially administered to 47,000 college seniors from 211 colleges during the period 1969-1971. The UAP Area Tests are related to students' "areas of interest" and measure achievement in humanities, natural sciences, or social sciences. The UAP Field Tests, on the other hand, measure student

achievement in one or more of 11 content-based disciplines.

The Educational Testing Service recently revised the area tests based upon data gathered by testing approximately 16,000 seniors in 105 colleges, 2,200 juniors in 57 colleges, 4,200 sophomores in 46 colleges, and 2,800 freshmen in 30 colleges during the period from 1976-1978. Significant differences regarding student achievement as a function of amount of completed coursework were obtained and proved to be compatible with the findings of all of the previously described studies.

The College Outcome Measures Project, sponsored by the American College Testing Program, is designed to measure communications skills, problem-solving skills, values clarification skills, functioning within social institutions, using science and technology, and using the arts. Because of the abstract nature of the areas being tested, test materials require students to respond to film excerpts, tape discussions, photographs, music, charts and tables, magazine articles, etc. This format is particularly time consuming and requires six hours for students to complete the battery. At the time of this writing, COMP assessment instruments are still being field-tested and no preliminary data are yet available.

The Educational Testing Service Project currently underway focuses upon academic competencies in basic intellectual processes that are required or further developed in colleges. These processes include the broad areas of communicating, quantifying, analyzing, synthesizing, and valuing and were decided upon as a result of a study which generated a large number of statements concerning student performance. These statements were subsequently organized into the five categories noted above. Preliminary data are now being gathered.

Conclusion

For the first time in over 35 years, sustained national attention has been directed toward general education. Conferences are being held, associations and federal funding agencies are sponsoring new programs in support of curricular analysis and reform, and, most importantly, hundreds of higher education institutions are actively engaged in examining their general education programs.[6]

In an attempt to provide a detailed plan of action which might be utilized by other institutions, there follows a five-stage approach which has been proven effective at a publicly-supported, comprehensive college. (Readers are invited to contact the author for more specific information.)

Stage I: Development of Conceptual Definitions

A. Objective: To develop and come to initial Committee consensus on concise statements which define each of the five skill areas to be promoted; i.e., Communicating, Quantifying, Analyzing, Synthesizing, and Valuing. These definitions should describe the five skills conceptually as well as operationally and should readily achieve institution-wide understanding.

B. Rationale: In order to insure as wide a basis of consensus and support as possible, it is proposed that the College's Faculty Senate, Futures Planning Committee, and Division Heads/Deans, etc., be consulted during all stages of the project and that a General Education Planning Committee composed of several students and representative faculty members from each of the academic divisions be convened. The names of the faculty members should be proposed by each division in consultation with the appropriate constituencies. The names of the students should be proposed by the Student Senate also in consultation with the appropriate constituencies.

The representatives on this Planning Committee, as part of their task, will be asked to look at how each of the five skill areas are being promoted in each of the respective academic divisions.

It might also be appropriate that at some future juncture, three additional faculty members be assigned to critique the work of the committee and that, if possible, each committee member and the three additional faculty members be remunerated for contributions beyond duties which are normally considered a part of their workload.

C. Recommendations:

1) That each of the respective divisions be allowed to determine the method (either election, appointment, consensus) by which its committee representative is selected.

2) That, as early as possible in the process, as many faculty members, administrators, students, and standing College committees be apprised of the goals and processes of the project and that they be continually updated on the project's progress.

3) That the process of working toward the project's goals be recognized as being as valuable as the potential products which might emerge.

4) That administrative intervention be minimized and the perception fostered that the primary administrative function is facilitative in nature.

5) That the general education program be recognized as an institution-wide program to inhibit the development of vested interest groups, turf-protecting, and hidden agendas.

6) That all work of the committee be considered tentative and subject to revision by the full faculty.

Stage II: Identification of Observable Performances and Criteria

A. Objective: To identify and develop procedures which will elicit student performances that indicate the presence of the generic skills and to establish criteria for judging the adequacy of student responses.

B. Rationale: This stage requires that levels of performance be established for each of the five skill areas. In order to do so, the Committee, in consultation with its constituent faculty and administration, must determine the range of performance levels (or specify desired student outcomes) appropriate to academic standards for undergraduates at the College. There are several issues related to the establishment of levels of performance which must be confronted: 1) Is it feasible (or desirable) to establish minimum levels of performance in these skill areas? 2) Is it feasible (or desirable) to compare input measures to output measures in trying to establish the institution's academic impact upon its students? 3) What implications are extant regarding the possibility of faculty overload in attempting to determine whether and to what extent desired student outcomes have been achieved? 4) How can objectivity be achieved in evaluating student performance levels?

C. Recommendations:

1) That the Committee recognize and call upon those faculty and staff members who have special expertise in the respective skill areas for their counsel in determining appropriate performance levels.

2) That the Committee recognize the importance of consulting the faculty-at-large concerning the procedures by which student performance evidence be gathered, interpreted, and reported.

3) That, although standardized instruments may be used to assess the various skills, the primary concern of the project is to address institution-specific outcomes within the parameters of the College's general

education program.

4) That the most efficient and effective mode of evidence gathering be employed while being mindful of the faculty's workload and day-to-day professional obligations to their classes, with minimal disruption of normal curricular routine, with the least threatening (to both students and faculty) possible process of data gathering, analysis, and reporting.

5) That the process employed to determine the extent to which desired student outcomes are achieved be academically defensible and easily understood by the faculty.

Stage III: Assessment of Students and Programs: Design and Implementation

A. Objective: To determine procedures to identify which students at the College will be assessed; to determine the logistics of data collection; to come to Committee consensus on the design of the assessment process.

B. Rationale: How can we find out whether, where, and to what extent undergraduates at our institution develop communication, quantification, synthesizing, analyzing, and valuing skills? This stage of the project will result in a determination of where, within the curriculum, these skills are being promoted by instructors and manifested by students. Stated in other terms, this stage will result in faculty, administrators, and students determining what "evidence" will demonstrate that students have acquired, or are in the process of acquiring, each skill. We should look beyond the mere completion of courses and programs for such evidence and should consider such factors as course content, course structure, and course methodology in addition to employing innovative ways of examining existing institutional and program data.

C. Recommendations:

1) That each Committee member submit a report which is the result of an examination of each respective division's contribution to the College's

general education program in light of the Committee-generated definitions of the five generic skills.

2) That the three consulting faculty members submit reports which critique all Committee work to date.

3) That the Committee determine which specific courses in the general education program will be examined and the method by which students enrolled in these courses will be sampled.

4) That a retreat/workshop be scheduled for members of the Committee, the three faculty critics, and the Faculty Senate to discuss the goals and procedures of the project.

5) That institution-wide, general education program statistics be gathered which include:

a) Enrollment statistics (overall) for selected general education courses during the last three years including the number of sections offered, total enrollment, student-credit-hour production, and average section size.

b) Enrollment statistics (by semester) for each selected general education course during the last three academic years including member of sections, total enrollment, average section size, and percent of each division's general education contribution to the total institutional general education program.

c) Data regarding student-credit-hour production in these selected general education courses (by division of instruction) as a percent of the total general education program semester-by-semester for the last three years.

d) Student-credit-hour production (by semester for the past three years) as a percent of the total undergraduate production for selected general education courses. This information should include general

education student-credit-hour production and general education as a percent of total undergraduate student-credit-hour pro tion;

e) Undergraduate student-credit-hour production (by division, semester-by-semester) for the last three years;

f) Enrollment statistics (by division, semester-by-semester) for the last three years including average section size, general education student-credit-hour production as a percent of total institutional general education, and as a percent of the total undergraduate student-credit-hour production.

6) That subsequent to the first semester's final examination period, student performance evidence which has been gathered from selected general education courses be prepared for analysis.

7) That during the following semester, expert committees of the faculty and student body be constituted to examine and evaluate student performance evidence.

8) That during the following summer, student performance evidence be analyzed and reports of this evaluation submitted to the Project Coordinator for synthesis.

9) That, as a result of the performance evidence analysis, course syllabi be examined voluntarily by each respective faculty member toward minimizing the dissonance between stated course objectives and actual course objectives achieved.

10) That additional questions be added to standardized course evaluation instruments (e.g., IDEA, Kansas State University) to generate data regarding general education course objectives.

Stage IV: Evaluation: Make Judgments Regarding Student and Program Performance

A. Objective: To evaluate the data on student performance and determine the

worth of the level of student generic skill attainment consistent with the role and mission of the College.

B. Rationale: The assessment design developed by the institution should define the parameters of the evaluation approach. The evaluation component of the project should seek to determine the extent to which the institution has promoted undergraduate competence in each of the five skill areas. In other words, based on the approach to assessment, faculty members should identify and, perhaps, design measures which will demonstrate whether or how well the College has accomplished its goals for student achievement in each of the five skill areas. In this regard we should:

1) Specify where and to what extent in each academic division, each skill is being promoted;

2) Specify appropriate measures for each skill area, ranging perhaps, from unobtrusive measures to formal testing to expert judgment;

3) Design and/or identify the necessary and appropriate administrative structure to carry out the evaluation plan.

C. Recommendations:

1) That Committee members examine the general education curriculum on a course-by-course basis to determine which courses and constituent students would best be sampled to meet the project's goals.

2) That faculty members teaching general education courses be given the opportunity to volunteer to take part in the evaluation stage of the project.

3) That student performance evidence on a course-by-course basis be continuously gathered. This evidence may include copies of quizzes, tests, essays, final exams, projects, term papers, etc.

4) That the anonymity of all students be preserved throughout the duration of the project.

5) That faculty members be assured that they will not be judged by the performance of their students.

6) That very close contact be maintained between Committee members and the faculty members teaching the general education courses which are being examined.

7) That during each semester, faculty members teaching general education courses be encouraged to up-date course syllabi.

8) That criteria be identified to determine the process by which the "expert" faculty evaluation committees (which will evaluate student evidence) will be constituted.

9) That the "expert" faculty evaluation committees identify criteria by which student evidence will be evaluated.

10) That during the subsequent summer, the actual evaluation and analysis of student evidence be carried out with Committee reports being submitted to the Project Coordinator in August.

Stage V: Policy Development and Decision Making

A. Ojbective: To remove discrepancies between desired and actual levels of student attainment; to re-enter various project stages if definitions need modification or if new assessment/evaluation procedures are to be adopted.

B. Rationale: Decisions must be made after the analysis of student performance data regarding the remediation of any discrepancies between the real and the ideal levels of student performance in the various skill areas. Determinations which identify whether such discrepancies are extant because of a lack of appropriate resources, an inappropriate allocation of available resources, an inappropriate curricular program, or an ineffective curricular design must be made. In order to minimize these discrepancies, institutional policies and procedures must be examined and modified in light of student performance data by institutional consensus.

C. Recommendations:

1) That, as a result of the analysis of student performance data, the Committee be central in the task of recommending procedures by which the findings of the project are to be presented to the College's various constituencies for discussion.

2) That the College's administration promulgate the perception that the general education program is an institution-wide program and rests in the hands of the entire faculty.

3) That the faculty of the institution be helped to recognize that curricular evaluation (and resultant modification) is a desirable phenomenon in higher education and a necessary element in curricular evolution toward increased effectiveness.

4) That new policies resulting in curricular change are the result of curricular evaluation and not the evaluation of specific individuals or divisions of instruction.

5) That a mechanism be employed for the continuing evaluation of the general education curriculum.

APPENDIX A

Examples of Generic Skills

Some examples of generic skill areas which have been considered by particular institutions regarding general education student outcomes are:

Alverno College:

1) Effective Communications Ability
2) Analytical Ability
3) Problem Solving Ability
4) Valuing in a Decision-Making Context
5) Effective Social Interaction
6) Effectiveness in Individual/Environment Relationships
7) Responsible Involvement in the Contemporary World
8) Aesthetic Responsiveness[7]

Florida Competency-Based Articulation Project:

1) Effective Communication
2) Problem Solving
3) Valuing and Self-Knowledge
4) Critical Thought
5) Historical Awareness
6) Individual and Social Awareness
7) Understanding and Applying Science
8) Arts and Sciences[8]

Washington International College: Five Basic Thinking Skills

1) Comprehension
2) Analysis
3) Synthesis
4) Evaluation
5) Communication[9]

Mars Hill College: Areas of Skill to Be Promoted:

1) Communication
2) Personal Knowledge
3) Cultural Values
4) Aesthetic
5) Sciences
6) Humanities[10]

Harvard College:

1) An educated person must be able to think and write clearly and effectively.
2) An educated person should have a critical appreciation of the ways in which we gain knowledge and understanding of the universe, of society, and of ourselves.
3) An educated American, in the last third of the century, cannot be provincial in the sense of being ignorant of other cultures and

other times.
4) An educated person is expected to have some understanding of, and experience in thinking about, moral and ethical problems.
5) We should expect an educated individual to have good manners and high aesthetic and moral standards.
6) An educated individual should have achieved depth in some field of knowledge.[11]

Antioch College:

1) Reading, Writing, and Computation
2) Academic Knowledge
3) Skills
4) Cooperative Education
5) Community Participation
6) Physical Education[12]

The College Outcome Measures Project (COMP)--American College Testing Program (ACT):

1) Communicating
2) Solving Problems
3) Clarifying Values
4) Functioning within Social Institutions
5) Using Science and Technology
6) Using the Arts
7) Speaking
8) Writing[13]

Northeastern Illinois University:

1) Communications Skills
2) Computation Skills
3) Thinking Skills
4) Interpersonal and Leadership Skills[14]

The Academic Program Evaluation Project--American Association of State Colleges and Universities: (APEP/AASCU):

1) Communication Skills
2) Quantification Skills
3) Analysis Skills
4) Synthesis Skills
5) Valuing Skills[15]

APPENDIX B

Gathering Longitudinal General Education Data

(Attachments A-G)

Because of the difficulty of matching assessment instruments with institution-specific student outcomes, many institutions have devised tests which address specific program objectives generated by faculty committees as described in a previous section of this paper.

As part of an institution's on-going general education program evaluation process, data should be gathered for longitudinal analysis in order to monitor enrollment and student flow statistics to provide a basis from which curricular decisions might be made. The following forms, included as attachments, can be used to facilitate this process.

Attachment A: Enrollment Statistics for Selected General Education Courses--By Semester

General education requirements at most institutions comprise one-fourth to one-third of the student's undergraduate experience. At some institutions these requirements are specified as particular courses to be completed while, at the other extreme, some institutions require only that a certain minimum number of credit-hours of coursework be completed in several broad areas of the curriculum.

In the former case, monitoring general education enrollment statistics is quite easy. In the latter, however, because of the myriad possible ways of completing the institutional requirement, it is very difficult to maintain a comprehensive overview of the various "tracks" or paths through the program except by a student-by-student, course-by-course accounting.

Since most general education programs lie somewhere between these two extremes and specify some courses while allowing others to be selected from broad curricular areas, it may become necessary to select "key" representative courses to be monitored. Once these courses are selected the following information should be gathered: 1) Division of instruction, school, or other appropriate academic component; 2) Number of credit hours per course; 3) Number of sections of the course being offered per semester; 4) Total course enrollment (including all sections); 5) Total student-credit-hour production; and 6) Average section size (total number of students divided by total enrollment).

Attachment B: General Education Student-Credit-Hour Production by Semester As Percent of Total Undergraduate Production

The Registrar's Office or Institutional Research Office should have readily available a semester-by-semester account of the total undergraduate student-credit-hour production which can be compared to the general education student-credit-hour production. To insure an appropriate selection, the representative general education courses should at least comprise a proportion of the total undergraduate production which approximates the proportion of the general education requirements in an individual student program. (For example, if 40 semester hours are required in general education and if a student needs

120 semester hours to graduate then, if properly selected, the representative general education student-credit-hour production should be approximately one-third of the total undergraduate student-credit-hour production.

Attachment C: General Education Student-Credit-Hour Production by Division (or other academic component)

This table provides a semester-by-semester and division-by-division matrix of student-credit-hour production. Care must be taken to emphasize that no value judgments are being placed upon the extent to which each component contributes to the general education program, especially since these data reflect only selected courses and may not be entirely representative.

Attachment D: General Education Student-Credit-Hour Production by Division as a Percent of Total General Education (self-explanatory)

Attachment E: General Education Student-Credit-Hour Production by Division as a Percent of Total Undergraduate Production (self-explanatory)

Attachment F: Enrollment Statistics for Selected General Education Courses by Division (one form per semester)

This form reorganizes already available information into a different format allowing emphasis to be placed upon the comparison of academic components for a given semester. This form should be differentiated from Attachment C which provides a semester-by-semester emphasis.

Attachment G: Enrollment Statistics for Selected General Education Courses (course-by-course, one form per course)

This form collates all information regarding each specific course which has been selected for inclusion. It also identifies the proportion of each division's contribution to the general education program by that specific course relative to the other selected courses from that academic component.

Attachment A

Enrollment Statistics for

Selected General Education Courses

Academic Year _____

Course	Division	Credits	Semester	# of Sections	Total Enroll.	Stud./Cred. Hr. Produc.
ENG 100 Comp Skills	HUM					
CNA 100 Speech Fund	HUM					
CNA 110 Interp. Comm.	HUM					
ART 241 Under. Art	FA					
MUS 100 Mus. In G.C.	FA					
HUM 101 West Cult 1	Inter					
HUM 102 West Cult 2	Inter					
HUM 111 Amer Cult 1	Inter					
HUM 112 Amer Cult 2	Inter					
HIS 100 West Htg 1	SS					
HIS 101 West Htg 2	SS					
HIS 160 U.S. Hist 1	SS					
HIS 162 U.S. Hist 2	SS					
ECO 100 Intro Econ	SS					
GEO 101 Princ. Geo	SS					
GEO 120 World Reg Geo	SS					
POS 100 Am Nat'l Gov.	SS					
SOC 101 Intro Soc	SS					
BUS 122 Pers. Finance	BUS					
MAT 110 Fund Math	M/SC					
MAT 120 Intro Math	M/SC					
PHS 100 Phy. Sci.	M/SC					
EAS 110 Gen. Earth Sci.	M/SC					
HEC 310 Everyday Liv	AP S					
HEC 315 Family Econ.	AP S					
ITE 104 Gen. Crafts	AP S					
SAE 121 Gen. Safety	AP S					
PSY 101 Gen. Psych.	ED/P					
PED 141 Person H & H	HPER					
PED 101 P.E. Bas. Skill	HPER					

Attachment B

General Education (Selected Courses)

Student Credit Hour Production by Division

as a Percent of Total Undergraduate Production

Semester	Appl. Sci.	Business	Ed/Psych.	Fine Arts	HPERA	Human.	Math/Sci.	Social Sci.	Interdis.

Attachment C

General Education (Selected Courses)

Student Credit Hour Production by Division

Semester	Appl. Sci.	Business	Ed/Psych.	Fine Arts	HPERA	Human.	Math/Sci.	Social Sci.	Interdis.

Attachment D

General Education (Selected Courses)

Student Credit Hour Production by Division

as a Percent of Total General Ed.

Semester	Appl. Sci.	Business	Ed/Psych.	Fine Arts	HPERA	Human.	Math/Sci.	Social Sci.	Interdis.

Attachment E

General Education (Selected Courses)

Student Credit Hour Production by Semester

as Percent of Total Undergraduate Production

Semester	General Education St. Cred. Hr. Prod.	Total Undergrad. St. Cred. Hr. Prod.	Gen. Ed. as % of Total

Attachment F

Enrollment Statistics

for

Selected General Education Courses

Semester: _____

Division	Average Section Size	General Education Student Credit Hour Production	% of Total Gen. Educ.	% of Total College's St. Cr. Hour Produc.

Attachment G

Enrollment Statistics

for

Selected General Education Courses

Course Title: _____

Semester	Number of Sections	Total Enrollment	Ave. Section Size	% of Div's Gen. Ed. Cont.	% of Total Gen. Ed.
9/76					
1/77					
8/77					
1/78					
9/78					
1/79					
9/79					

Trends:

Notes

[1]"The College Curriculum: Just a Passing Grade" in Change. New Rochelle, New York: The Council on Learning, February, 1978, p. 14.

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[3]Paul L. Dressel. "Methods of Evaluation and Research" in General Education edited by Louis B. Mayhew. New York, New York: Harper and Bros. Publishing Co., 1960, pp. 167-168.

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[5]C. Robert Pace. Measuring Outcomes of College. 1979, pp. 10-47.

[6]Jerry G. Gaff. General Education: Issues and Resources. Washington, D.C.: Project on General Education Models, 1980, p. 1-2.

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[9]Unofficial Staff Working Paper, Washington International College, Washington, D.C., 1978-1979..

[10]Gerald Grant, et. al. On Competence: A Critical Analysis of Competency-Based Reforms in Higher Education. San Francisco: Jossey-Bass Publishers, 1979, p. 170.

[11]Ibid., p. 171.

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[13]COMP Prospectus. Iowa City, Iowa: The American College Testing Program, 1979, p. 3.

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[15]Alternatives. Washington, D.C.: The American Association of State Colleges and Universities, April, 1979, pp. 2-3.